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CLAIMS

1. A rotary type actuator comprising:

arms in a plate shape for holding head suspension elements at one end;

a holder in a cylindrical shape for holding said arms which are oscillated, wherein grooves having a gap width greater than said plate thickness of said arms are formed in the external surface of said holder and the other end of each of said arms is inserted in said grooves;

a single coil part around which a wire is wound in an aligned manner;

a conductive member in a band shape for maintaining said plurality of arms at the same potential through grounding; and

a resin part for integrally combining said arms, said holder and said coil part at a predetermined position.

2. A rotary type actuator according to claim 1, wherein the plurality of arms is provided, said grooves of said holder are formed in the same number of said arms, and said plurality of arms are led out substantially in parallel at predetermined intervals.

3. A manufacturing method for a rotary type actuator which comprises arms in a plate shape for holding head suspension elements at one end; a holder in a cylindrical shape for holding said arms which are oscillated by supporting the other end of each of said arms;

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and a single coil part around which a wire is wound in an aligned manner,

wherein the manufacturing method for the rotary type actuator has:

a step of forming grooves having a gap width greater than the plate thickness of said arms in the external surface of said holder;

a positioning step of positioning in the upward and downward directions by mounting the other end of each of said arms onto each of the upward facing surfaces of said grooves formed on the side of said holder;

a step of connecting a conductive member in a band shape to the respective sides of said arms which are inserted into said grooves of said holder and of said holder; and

a step of holding said arms, said holder and said coil part at a predetermined position while integrally combining said arms, said holder and said coil part by forming a resin part through injection molding.

4. A manufacturing method for a rotary type actuator according to claim 3, wherein said conductive member is connected to the sides of said arms through ultrasonic welding.

5. A manufacturing method for a rotary type actuator according to claim 3, wherein the plurality of arms is provided, said grooves of said holder are formed

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in the same number of the arms, and said plurality of arms are led out substantially in parallel at predetermined intervals.

6. An arm positioning apparatus for manufacturing a rotary type actuator which comprises arms in a plate shape for holding head suspension elements at one end, a holder in a cylindrical shape for holding said arms which are oscillated by supporting the other end of each of said arms, and a single coil part around which a wire is wound in an aligned manner, and secures said arms, said holder and said coil part at a predetermined position by resin molding, and

said arm positioning apparatus comprises:

a positioning pin for positioning said arms by insertion into suspension element attachment holes of said arms which are placed at predetermined positions in said holder; and

a pin positioning means having a pin holder for holding said positioning pin which is movable in the arm positioning direction for positioning said arms at predetermined positions by restricting the movement of said positioning pin at the time of arm positioning and for releasing the restriction to said positioning pin after the completion of arm positioning.

7. An arm positioning apparatus according to claim 6,

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wherein said positioning pin has a small diameter portion that is engaged in the suspension element attachment holes and a cone portion which has a diameter that gradually spreads outward from said small diameter portion, and

said pin holder of said pin positioning means has a cylindrical surface with a small diameter that guides the movement of the small diameter portion of said positioning pin and an inclined surface that makes contact with and is positioned by the cone portion of said positioning pin.

8. An arm positioning apparatus according to claim 6 or 7, further comprising:

a first pressing means that can depress said positioning pin in said arm positioning direction and a second pressing means that can depress said pin holder in said arm positioning direction of said positioning pin are provided inside of a containment chamber containing said pin positioning means which can slide freely;

said pin holder is placed in a predetermined upper position by said second pressing means and said positioning pin is placed in the two places of a arm positioning position and an arm holding position by said first pressing means; and

said pin holder is placed in a predetermined lower position by said second pressing means so that said

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positioning pin is placed in a stand-by position wherein said positioning pin comes out of said suspension element attachment holes of said arms.

9. An arm positioning apparatus according to claim 6 or 7, wherein said positioning pin has a large diameter portion that continues to said cone portion and a flange portion that protrudes in the radial direction from said large diameter portion, and

said pin holder has a cylindrical surface of a large diameter on which said flange portion slides and a flat surface that forms a step between said cylindrical surface of a large diameter and the inclined surface, a first compression means is provided between the flange portion of said positioning pin and the flat surface of said pin holder so as to compress the flange portion of said positioning pin and the flat surface in the direction wherein the two move away from each other, a second compression means is provided between the surface of a ceiling of the containment chamber that contains said pin positioning means in a freely slidable manner and said pin holder so as to compress the surface of the ceiling and said pin holder in the direction wherein the two move away from each other.

10. An arm positioning apparatus according to claim 6 or 7, wherein a surface of said positioning pin that is inserted into said suspension element attachment

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holes of said arms is coated with a sinter prevention material.

11. An arm positioning apparatus according to claim 6 or 7 that is built into a metal mold for resin molding.

12. A manufacturing method for a rotary type actuator which is manufactured by resin molding both sides of a holder member in a cylindrical shape for supporting arms on a chassis so as to rotate, and said arms for attaching suspension elements having magnetic heads at one end of each arm and a coil member, and said manufacturing method having:

a step of placing said arms at predetermined positions relative to said holder member that is held in a metal mold for resin molding;

a step of carrying out positioning of said arms by inserting a positioning pin in suspension element attachment holes of said arms so as to restrain and position said positioning pin at a constant axis position;

a step of resin molding said arms by releasing the restriction of said positioning pin after the completion of arm positioning; and

a step of pulling out said positioning pin from said suspension element attachment holes after the completion of resin molding.